

May 24, 2004

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U.S. Environmental Protection Agency, Region II  
Emergency and Remedial Response Division  
290 Broadway, 19th Floor, Room W-20  
New York, New York 10007-1866

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Attention: Patricia C. Hick, Esq.

Subject: Pathogen Sampling and Preliminary Human Health Risk Assessment  
Passaic River Study Area  
Administrative Order on Consent Index No. II-CERCLA-0117

Dear Ms. Hick:

On December 15, 2003, Tierra Solutions, Inc. its consultants, and I met with you, Mr. Ray Basso, and other Region II personnel, at which time we advised EPA of the pathogens found in a sampling event at the Saybrook Place outfall to the Passaic River. As a follow-up to that meeting, please find enclosed a report entitled "*Pathogen Sampling and Preliminary Human Health Risk Assessment—Saybrook Place Combined Sewer Overflow, Newark, New Jersey.*" that presents, summarizes, and assesses the results of a sampling event conducted at the Saybrook Place combined sewer overflow (CSO) in the Passaic River in September of 2003. This Report is being provided consistent with Tierra's policy of submitting to EPA all data that it collects and has interpreted.

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In addition to the data provided in the Report, preliminary pathogen-specific human health risk calculations and analyses of potential effects on aquatic biota are presented. A few of the most important conclusions developed from the available data are provided here for your information:

- Documented fecal coliform bacteria concentrations were significantly elevated above both USEPA and NJDEP water quality criteria and standards for the protection of human health. Calculations show these elevated bacterial concentrations pose a risk that ranges from 2 to 150 times greater than USEPA's or NJDEP's acceptable risk of contracting gastrointestinal illness for exposed individuals. Additional analyses conducted by the Interstate Environmental Commission (IEC) at six stations in the Passaic River during August and September, 2003 confirmed elevated levels of fecal bacteria after rain events.
- The pathogenic protozoan *Giardia*, that can cause gastroenteritis in exposed individuals, was detected at elevated concentrations in CSO and nearby receiving waters, a condition which is consistent with raw sewage discharges. The calculated risk of contracting a *Giardia* infection by exposed recreational users of the River was 80% (i.e., 8 of 10 exposed individuals would be expected to become infected).
- At least one variety of viable, infectious enteric virus was detected in sampled waters.

The health risks are demonstrated to be quite high for persons exposed to pathogens in the waters of the Passaic River, and the discharge of untreated combined sewer effluent into the Passaic River clearly implicates the Clean Water Act. The analytical results of this CSO sampling event, and the associated risk calculations, demonstrate that the Passaic River currently is receiving pathogenic pollutants and that, contrary to the goals of the Clean Water Act, the River does not provide for the "... protection and propagation of fish, shellfish, and wildlife ..." nor does it provide for "... recreation in and on the water."

Although assessing ecological risks was not the focus of this Report, it is likely that pathogens in the Passaic River are adversely affecting fish and other aquatic organisms. The most direct available evidence to support this contention is the fish pathology survey information collected during the Remedial Investigation Ecological Sampling Plan (ESP) in 1999 and 2000. During these surveys, there were a number of pathologies noted in various fish species collected from the lower Passaic River that are typically associated with poor water quality and aquatic pathogens. These include eroded/frayed/hemorrhagic fins, external lesions, hemorrhages of the lips and jaws, and inflamed/red urogenital openings. Additionally, parasites were found in many locations on individual fish including the gills, body cavity, ovaries/testes, intestines, and bronchial cavity.

Tierra respectfully requests that EPA give notice of these conditions to public health agencies responsible for human health issues in and around the Passaic River Study Area, or direct that Tierra provide such notice. Given the significance of the risks calculated in this Report, if Tierra does not receive confirmation of such notification or direction to provide such notification within sixty days of receipt of this letter, we will submit copies of the Report directly to local health agencies.

The Report points out that Section 303 of the Clean Water Act identifies protection from pathogenic contamination as most important for waters designated for recreation and for protection and propagation of fish, shellfish and wildlife. New Jersey has designated the Passaic River for uses, among others, for secondary contact recreation and for maintenance and migration of fish populations. The NJDEP has determined that the Passaic River is impaired because of PCBs and dioxins, but it has not listed pathogens as an impairment on its Section 303(c) list.

There also are enclosed five additional copies of the Report for the CERCLA and Water program offices. Please advise if you would need additional copies.

If you have any questions regarding this Report and its preliminary human health risk assessment, please let me know.

Yours very truly,



Carol E. Dinkins

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Enclosure  
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cc: Kedari Reddy, EPA, Office of Regional Counsel, Region II  
Jerri Weigand, NJDEP – Case Manager, Passaic River  
Rick Gimello – New Jersey Office of Maritime Resources  
Kimberley Kendall, NOAA – Office of General Counsel for Natural Resources  
William Hyatt, Esq. – Coordinating Council for the Lower Passaic River Study Area  
Cooperating Parties Group